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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/805,960

03/14/2001

Koki Kanda

2803.65313

3697

24978

7590

12/04/2003

GREER, BURNS & CRAIN  
300 S WACKER DR  
25TH FLOOR  
CHICAGO, IL 60606

EXAMINER

BLOUIN, MARK S

ART UNIT

PAPER NUMBER

2653

DATE MAILED: 12/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/805,960

Applicant(s)

KANDA, KOKI

Examiner

Mark Blouin

Art Unit

2653

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 10 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

**Detailed Action**

***Response to Amendment***

- The reply filed 10 November 2003 was applied to the following effect: Examiner maintains all previous rejections.

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art in view of Boutaghou et al. (USPN 6,377,422).
3. Regarding Claims 1, 13, and 21, Applicant's admitted prior art shows (Fig. 1) a magnetic disk drive unit comprising in a box body a spindle motor for rotating at least one disk medium and a head slider comprising in turn head for reading data from and writing data to a disk medium, a head slider being mounted via head suspension on a distal end portion of a carriage which is driven by a voice coil motor and able to perform seeking relative to recording tracks formed on a disk medium. Applicant's admitted prior art also shows a head slider (Fig. 2) for use in a disk drive unit wherein flat air bearing portions (Fig. 2, (32,33)) are formed in parallel on both sides of a side of the head slider which flies above a disk medium at an air outflow end thereof in such a manner that said flat air bearing portions are raised higher by a step than a slider main body (2), and wherein a head portion comprising head elements (4) is provided

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adjacent to an air outflow end of one of the air bearings, whereas a dummy head portion is provided adjacent to an air outflow end of the other air bearing portion, top surfaces (6,7) being formed lower by a step than top surfaces of the air bearing portions (32,33), the head slider being characterized in that the top surfaces of the head portion and the dummy head portion on air outflow sides thereof are formed lower by a degree. Applicant's admitted prior art does not show protection film on the head elements and top surfaces of the dummy head portion.

Boutaghou et al. shows protection film (Fig. 5, 68) on the head elements and other surfaces of the head slider. It is well known in general and especially in the art to use thin film layers to protect surfaces subject to constant friction and heavy wear. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the head slider (Fig. 1) of Applicant's admitted prior art with the thin film layer (Fig. 5, 68) as taught by Boutaghou et al. The rationale is as follows: One of ordinary skill in the art at the time the invention was made would have been motivated to provide the head slider of Applicant's admitted prior art with the thin film layer as taught by Boutaghou et al. to reduce friction and wear of the disc head contact elements.

4. Regarding Claims 2 and 14, Applicant's admitted prior art shows a head slider (Fig. 2), wherein the distance in a longitudinal direction of the head slider of an area where the top surface (32) of the head portion is formed lower is made equal to the distance in the longitudinal direction of the head slider of an area where the top surface of the dummy head portion (25b) is formed lower.

5. Regarding Claims 3 and 15, Applicant's admitted prior art shows a head slider (Fig. 2), wherein the distance in the longitudinal direction of the head slider of an area where the top

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surface (33) of the dummy head portion is formed lower is made longer than the distance in a longitudinal direction of the head slider of an area where the top surface of the head portion is formed lower.

6. Regarding Claims 4 and 16, Applicant's admitted prior art shows a head slider, wherein the top surface (33) of the dummy head portion is formed such that a certain area of the top surface is maintained as high as the height of the top surface adjacent to the air bearing portion (32) in the longitudinal direction of the head slider, whereas the remaining area of the top surface is lowered than a certain area over an area to the vicinity of the air bearing portion.

7. Regarding Claims 5,9,and 17, Applicant's admitted prior art shows a head slider, wherein it is obvious that the top surfaces of the head portion and the dummy head portion on air outflow sides thereof can be lowered by partially deleting the protection films. Removal of any material from a surface will inherently lower or reduce that surface.

8. Regarding Claims 6,10, and 18, Applicant's admitted prior art shows a head slider, wherein locations of the top surfaces of the head portion and the dummy head portion which are formed lower are level with the flying height of a side of a main body of the head slider which flies above the disk medium.

9. Regarding Claims 7, 11, and 19, Applicant's admitted prior art shows a head slider, wherein the locations of the top surfaces of the head portion and the dummy head portion which are formed lower are positioned higher than the flying height of the side of the main body of said head slider which flies above the disk medium.

10. Regarding Claims 8,12, and 20, Applicant's admitted prior art shows (Fig.2) a head slider, wherein a plurality of pads are provided on the side of the main body of the head slider

which flies above the disk medium for avoiding the sticking of the head slider to the disk medium when the disk medium is at a stop.

***Response to Arguments***

11. Applicant's arguments filed 10 November 2003 have been fully considered but they are not persuasive.

- Applicant asserts on page 2 :

“... neither reference, alone or in combination, discloses or suggests a protective layer in the location defined ( head elements projecting from base portion) by the independent claims.”

The Examiner asserts that Boutaghou et al (Figs.5-7) clearly shows a protective layer (film) (68), protecting transducer elements (64), made of alumina and refers to the layer in Column 4, lines 43-54. In addition, the Examiner reiterates that it is well known in general and especially in the art to use thin film layers to protect surfaces subject to constant friction and heavy wear. Therefore rejection of Claims 1-21 are upheld.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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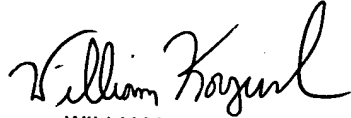
however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Blouin whose telephone number is (703) 305-5629. The examiner can normally be reached M-F, 6:00 am – 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful the examiner's supervisor, William Korzuch can be reached at (703) 305-6137. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314 for regular and After Final communications.

Any inquiry of general nature or relating to the status of application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.

Mark Blouin  
Patent Examiner  
Art Unit 2653  
April 23, 2003

  
WILLIAM KORZUCH  
SUPERVISORY PATENT EXAMINER  
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